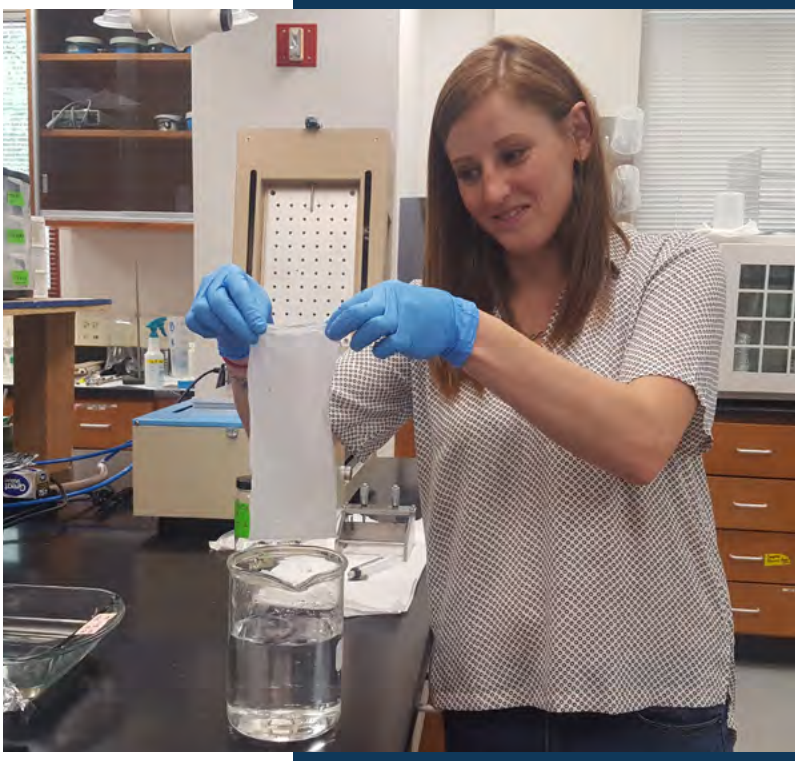

CLOCKWISE FROM LEFT: Osmotic Team members with their GMD trailer at Masson Greenhouse; Carolyn Medin demonstrates membrane formation; Lynda Laumbach shows off a portion of the Osmotic Power system

OSMOTIC POWER

Water scarcity is a real issue in New Mexico, especially when it comes to agriculture. The state has an abundant supply of groundwater heated by geothermal activity, but much of that water is unusable due to its high mineral content and brackish qualities. The Osmotic Power Development team has partnered with Masson Greenhouse, a local geothermal greenhouse, to work toward meeting its demand for irrigation at a lower cost while conserving existing freshwater resources. In order to do this, the team has spent the last 4 years working on filtration through membrane fabrication, and designing a geothermal membrane distillation (GMD) system to clean the brackish water for reuse.

The team's membrane characterization process is unique and ahead of its time; membrane desalinization will become increasingly popular in New Mexico as water becomes more scarce, and the groundwork provided by the team will provide a competitive edge for the state. Near the end of Year 4, the team deployed the GMD system at Masson Greenhouse for field evaluations. Results are expected in Year 5.